Amendments to the Specification:

Please replace paragraph [0034] with the following amended paragraph:

[0034] A communication network 2 embodying the present invention is shown in Figure 1. The communication network 2 generally comprises one or more base stations 4, each of which is in wireless communication with a plurality of subscriber units 6, which may be fixed or mobile. Each subscriber unit 6 communicates with either the closest base station 4 or the base station 4 which provides the strongest communication signal. The base stations 4 also communicate with a base station controller 8, which coordinates communications among base stations 4. The communication network 2 may also be connected to a public switched telephone network (PSTN) 9, wherein the base station controller 8 also coordinates communications between the base stations 4 and the PSTN 9. Preferably, each base station 4 communicates with the base station controller ~~10~~ <u>8</u> over a wireless link, although a land line may also be provided. A land line is particularly applicable when a base station 4 is in close proximity to the base station controller 8.

Please replace paragraph [0044] with the following amended paragraph:

[0044] The pilot rake receiver 40 and the PLL 10 operate in conjunction with one another in the receiver section 20. In order for the PLL 10 to perform optimally, it requires a despread pilot signal 30 with the distortion effects due to multipath removed. This is accomplished by the adaptive matched filter obtained from using

the channel-impulse-response estimate provided by the pilot rake receiver 40. The pilot rake receiver 40 and the data receiver 42 cannot operate effectively unless the received pilot signal 17 and the data signals ~~16~~ 46 have been corrected for phase error due to RF carrier signal offset. The phase error correction signal 50 is provided by the PLL 10 to the pilot rake receiver 40 and data receiver 42. Optimal performance of the receiver 20 will not occur until the pilot rake receiver 40 and the PLL 10 have reached a mutually satisfactory equilibrium point. The operation of the data receiver 42 is well known to those of skill in the art.

Please replace paragraph [0048] with the following amended paragraph:

[0048] Equations 1 and 2 are implemented using a lookup table 150 when finite resolution is acceptable. For example, if the I component is expected to be an integer between -10 and 10, and the Q component is expected to be an integer between -10 and 10, then the lookup table 150 shown in Figure 7 may be implemented. The phase φ for any I and Q component pair may be obtained from the lookup table 150. For example, if I=8.8 and Q=10.1, the values would first be quantized into the integers I=9 and Q=10, resulting in a phase value $\cancel{\varphi_{20}}$ $\underline{\varphi_{42}}$ from the lookup table 150. The arctangent analyzer 114 is preferably implemented with a lookup table 152 having eight I bins and eight Q bins, covering a range of possible I and Q values between ~~1.4 and +1.4~~ -1.4 and +1.4, as shown in Figure 8. For example, if I=-0.8 and Q=0.9, the lookup table 152 will return a phase value of φ_{55}.

Please replace paragraph [0051] with the following amended paragraph:

[0051] Since pseudonormalizing results in a complex number ~~having I and Q component values of~~ between 1.0 and 1.414, performing a pseudonormalization on the complex error signal 122 causes the resulting signal 124 to fall within a smaller input range of the domain of the lookup table 152. Moreover, by quantizing the I and Q components into 8 bins each, the size of the lookup table 152 is limited to 64 bins, with resolution that is sufficient for the desired PLL performance.

Please replace paragraph [0061] with the following amended paragraph:

[0061] The bandwidth control section 120 comprises four processing units: a squaring unit 160, a (leaky) integrator unit 162, a bandwidth calculation unit 164 and a sample/hold unit 168. The squaring unit 160 squares the quantized phase error signal 126. The integrator 162, which is a first order low-pass filter, then integrates and smoothes the squared signal 170. The squaring unit 160 and the integrator ~~172~~ 162 act together to estimate the standard deviation (squared), or variance, 172 of the quantized phase error signal 126. This value 172 is then input into the bandwidth calculation unit 164.

Please replace paragraph [0063] with the following amended paragraph:

[0063] Preferably, the transfer function 180 comprises a linear portion 182 which correlates the input value 172 with the desired output bandwidth 174. It is preferable to limit the linear portion 182 of the transfer function 180 to a range of

phase error input values 172 and bandwidth output values 174 in order to ~~simply~~ simplify the operation of the transfer function unit 164. For example, when the phase error input value 172 is A, the transfer function 180 will provide a desired bandwidth output 174 of B. The bandwidth calculation unit 164 may be implemented by a microprocessor which would dynamically calculate the bandwidth. Additionally, the microprocessor may be dynamically updated with different transfer functions depending upon the conditions of the system and the RF channel.

Please replace paragraph [0069] with the following amended paragraph:

[0069] The process for determining the amount of phase error, determining an appropriate PLL 10 bandwidth, adjusting the PLL 10 bandwidth and controlling the VCO 118 to provide an updated correction signal 50 is summarized in Figure 13. After the pilot signal 17 has been received (step 200) by the pilot rake receiver 40, the pilot signal 17 is despread (step ~~200~~ 202) and corrected for channel distortion due to multipath reflections (step 204). A complex error signal is produced (step 206) and the error signal is normalized (step 208) prior to quantizing the phase of the error signal (step 210). The bandwidth control section 120 estimates the variance of the phase error (step 214) and determines the desired PLL bandwidth to produce a correction signal (step 216). The PLL filter 116 provides an estimate of the offset of the RF carrier signal and the phase error due to the carrier signal offset (step 212) and provides a correction signal (step 218) to the pilot rake receiver 40

and the data receiver 42. In this manner, the bandwidth of the PLL filter 116 is continuously adjusted and refined as the magnitude of the error signal 126 output from the arctangent analyzer 114 decreases.